

REMARKS

This amendment is responsive to the final Office Action mailed on February 8, 2006. Claims 1, 3-8 and 13, 14 and 16 are pending, of which claims 1 and 13 have been amended. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

Rejections under 35 U.S.C. § 112

The Office Action rejects claims 1-8 and 13-16 under 35 U.S.C. § 112, second paragraph, as failing to comply with the written description requirement. Applicants have amended independent claims 1 and 13 in a manner believed to overcome this rejection without introducing new issues requiring further consideration or search.

Rejections under 35 U.S.C. § 102

Claims 1, 3-5, 8, 13, 14 and 16 stand rejected under 35 U.S.C. § 103(a) as being as being unpatentable over U.S. Patent No. 5,115,853 issued to Oare et al. (hereinafter *Oare*) in view of U.S. Patent No. 5,795,417 issued to Damke et al. (hereinafter *Damke*) and further in view of U.S. Patent No. 5,007,974 issued to Maathuis et al. (hereinafter *Maathuis*). Applicants respectfully traverse the Examiner's contention.

Applicants submit that the Office Action fails to set forth a legitimate motivation for combining the disclosures of *Oare* and *Damke*. The Office Action admits that *Oare* fails to disclose the relationship of the belt and overlay layers to the tire shoulders. The Office Action relies on the disclosure in *Damke* as exemplifying that a person having ordinary skill in the art

would understand that, as stated on page 3 of the Office Action, “a tire overlay typically extends and covers the ‘shoulder regions’ of a tire.” The Office Action refers to col.4, lines 4-12 and column 5, lines 15-21 in *Damke* to support this reliance. However, the Examiner’s reliance is misplaced for the following reasons.

Damke discloses two embodiments with spiral wound strips in the shoulder regions. Specifically and with regard to Figure 37, *Damke* discloses, at column 8, line 58 to column 9, line 6, an embodiment in which the cover ply (5) includes helically wound strips (19, 20) in the shoulder regions (18) that the Examiner concludes are spiral wound shoulder layers. Disposed between the shoulder regions (18) is a broad band (22). Consequently, this disclosure in *Damke* teaches a person having ordinary skill in the art that, if spiral wound shoulder layers were added to the tire construction of *Oare*, then a broad band (22) should be provided between the shoulder regions, rather than a continuous strip that is helically wound between the shoulders of *Oare*, and that the wrapped helically wound strips (19, 20) should only be applied in the shoulder regions.

With regard to Figure 38, *Damke* discloses, at column 9, lines 7-48, an embodiment in which the cover ply (5) includes a helically wound strip (19, 20) in the shoulder regions (18), which the Examiner identifies as spiral wound shoulder layers, and a different helically wound strip (23) between the shoulder regions (18). Strips (19, 20) have different properties than strip (23). Specifically, strips (19, 20) have a maximum extension of 0.1% to 0.5% and strip (23) has a maximum extension of 2% to 3%. In addition, the cords in strips (19, 20) are made of aramid and the cords in strip (23) are rayon. Consequently, this disclosure in *Damke* teaches a person having ordinary skill in the art that, if spiral wound shoulder layers were added to the tire construction of *Oare*, then a different strip (23) should be provided between the

shoulder regions than the strips (19, 20) in the shoulder regions (18), rather than a continuous strip that is helically wound between the shoulders of *Oare*. This discontinuity is required such that the strips (19, 20) can have different properties than strip (23), as outlined in the preceding remarks.

Oare discloses that the overlay structure (20), which is disposed between the shoulder regions, comprises “a single continuous ribbon 22.” See *Oare* at column 2, line 2 – column 3, line 4. Based upon these teachings from *Damke*, Applicants submit that the Examiner’s suggested modifications to *Oare* would change the principle of operation of the tire construction being modified. Under MPEP § 2141.03, this is not permitted. Consequently, Applicants submit that the Examiner has failed to properly support a case of *prima facie* obviousness. For at least this reason, Applicants request that the rejection of independent claim 1 be withdrawn.

Applicants’ claim 1 is patentable for additional reasons. Specifically, Applicants submit that the Office Action fails to set forth a legitimate motivation for combining the disclosure of *Maathuis* with the disclosures of *Oare* and *Damke*. Specifically, *Maathuis* discloses that a continuous strip may be wound in multiple layers between the shoulder regions. However, *Maathuis* fails to disclose or suggest that the continuous strip, if extended by winding into the shoulder region, can supply multiple spiral wound shoulder layers. Consequently, even if *Damke* were properly applied to modify *Oare*, a person having ordinary skill in the art would fail to recognize from the disclosure in *Maathuis* that multiple spiral wound layers would be desirable in the shoulder regions of a tire construction.

Maathuis teaches that, in a tire construction that includes multiple layers of a spiral wound strip, the winding pattern is selected such that the ends (24, 25) of the strip (22) are

both positioned near the equatorial plane (EP). Note that the winding pattern has a near mirror symmetry about the EP, as best shown in Figure 4 of *Maathuis*. For example, the center turn of strip (22) is nearly flat to initiate the winding at end (24). Consecutive turns in the first layer to the axial left of the EP overlap with the turn of strip (22) furthestmost from the EP partially overlying the adjacent turn of the strip (22) nearer to the EP. Consecutive turns of strip (22) in the first layer to the axial right of the EP also overlap with the turn of strip (22) furthestmost from the EP partially overlying the adjacent turn of strip (22) nearer to the EP. Hence, a person having ordinary skill in the art would understand that the winding pattern in *Maathuis* that provides the nearly symmetrical winding pattern with multiple layers of continuous strip (22) and overlapped turns (26, 27, 28) at the lateral edges relies on initiating and concluding the winding of the strip (22) near the EP.

In marked contrast, the winding pattern in *Oare*, which the Examiner attempts to improperly modify in view of *Damke*, is asymmetrical about the equatorial plane because the strip (37) is wound from one lateral end (38) to the opposite lateral end (39). With regard to *Oare* and particularly Figure 3 in *Oare*, the first helical turn of strip (37) at lateral end (38) is almost flat to initiate the winding and does not overlap with any adjacent turn. The last helical turn of strip (37) at lateral end (39), which concludes the winding pattern in *Oare*, has five distinct tiered levels because of the overlap between adjacent helical turns.

The Examiner's proposed modification, based upon *Maathuis*, to the tire construction taught by the combination of *Oare* and *Damke* would present a person having ordinary skill with the dilemma of reconciling the asymmetrical winding pattern in *Oare* with the symmetrical winding pattern in *Maathuis*. Somehow, a person having ordinary skill in the art would have to initiate and conclude the winding of the strip near the EP, as taught by *Maathuis*

to provide multiple levels, and still retain the asymmetrical winding pattern of *Oare* that is initiated and concluded at the lateral edges most remote from the EP. Applicants submit that the Examiner is improperly relying on hindsight analysis based upon the Applicants' specification, which is fundamentally impermissible. *See* MPEP § 2141.

Because the Examiner has failed to properly support a case of *prima facie* obviousness for at least these additional reasons, Applicants request that the rejection of independent claim 1 be withdrawn.

Because claims 3-5 and 8 depend from independent claim 1, Applicants submit that these claims are also patentable. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by the combined disclosures of *Oare*, *Damke* and *Maathuis*.

Independent claim 13 is patentable for similar reasons as independent claim 1, as discussed above. Specifically, the Examiner has failed to support *prima facie* obviousness of claim 13 because of an absence of a proper suggestion or motivation to combine *Oare*, *Damke* and *Maathuis* in the suggested manner. Because claims 14 and 16 depend from independent claim 13, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by the combined disclosures of *Oare*, *Damke* and *Maathuis*. Consequently, Applicants request that the rejection of these claims be withdrawn.

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable under 35 U.S.C. § 103(a) over *Oare*, *Damke* and *Maathuis* further in view of at least one of U.S. Patent No. 5,277,236 issued to Takatsu et al. (hereinafter *Takatsu*) and U.S. Patent No. 5,385,190 issued to Assaad et al. (hereinafter *Assaad*). Applicants submit that claims 6 and 7 are patentable

for at least the same reasons as independent claim 1 from which they depend. In this regard, neither *Takatsu* nor *Assaad* cures the deficiencies of *Oare*, *Damke* and *Maathuis*, as fully discussed in the preceding remarks. Furthermore, each of these claims recites a unique combination of elements not taught, disclosed or suggested by the combined disclosures of *Oare*, *Damke* and *Maathuis*.

Conclusion

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing amendments and remarks, this application is submitted to be in complete condition for allowance and, accordingly, a timely notice of allowance to this effect is earnestly solicited. In the event that any issues remain outstanding, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe fees are due in connection with filing this communication. If, however, any fees are necessary as a result of this communication, the Commissioner is hereby authorized to charge any under-payment or fees associated with this communication or credit any over-payment to Deposit Account No. 07-1725.

Respectfully submitted,

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